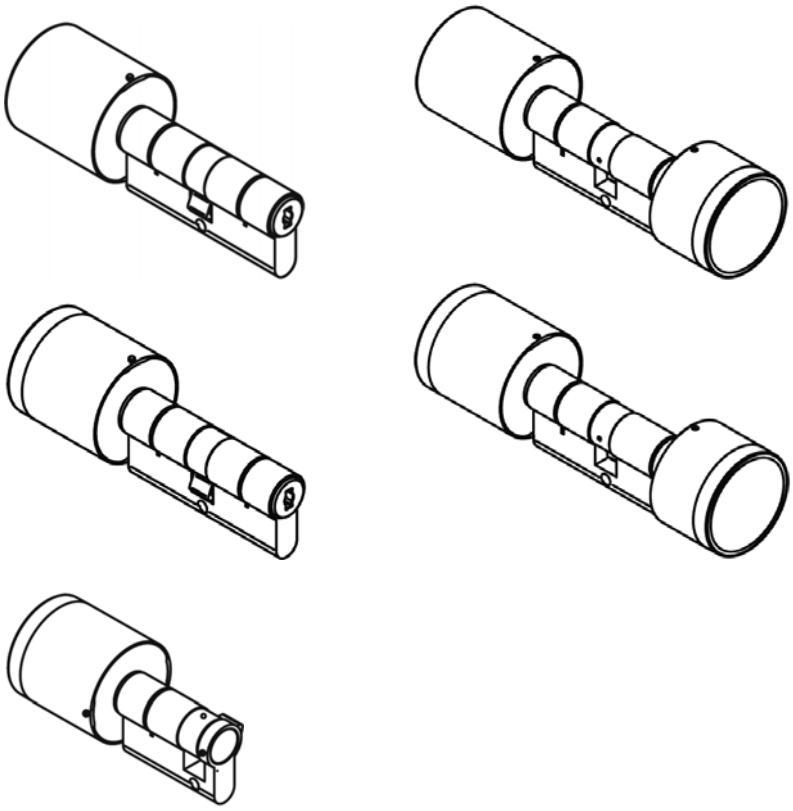
Operating instructions

Electronic lock cylinders
ES6210, ES6220, ES6230,
ES7210, ES7220, ES7230



Contents

1 Introduction 4
About these instructions 4
Explanation of the Symbols and Signal Words Used 4
Target group 4
OPERTIS Support 4
Up-to-date status of the information 5
2 Product description 5
Overview 5
Functional principle 6
Detailed information 6
3 Proper use 7
Area of use 7
Condition of the product 7
Ambient conditions 7
Power supply 7
Residual risk 8
4 Safety instructions 9
5 Operation and use 11
Programming fittings and identifiers 11
Replacing the battery 11
Optical and acoustic signals 14
6 Service, cleaning and care 15
Intervals 15
Cleaning and care 15
Service 16
7 Problems and solutions 17
8 Product specification 18
Declaration of conformity 18
Dimensions 19
Technical data 20
9 Disposal 21
Product 21
Batteries 21

1 Introduction

About these instructions

These instructions contain important notes and information on operation of the external power supply (EPS) ES7781.

- Read through the instructions carefully and attentively.
- Keep the instructions in a safe place and pass them on to each subsequent user of the electronic lock cylinder.

Explanation of the Symbols and Signal Words Used

⚠ WARNING	Indicates risks which could result in fatal or severe personal injuries.
⚠ CAUTION	Indicates risks which could result in fatal or severe personal injuries.
CAUTION	Indicates risks which could result in damage to property.
Note	Denotes information, notes and tips on optimum use of the instructions and the product.

Target group

These instructions are aimed at specialist personnel who are familiar with the maintenance, care, disposal and provision of fault-free operation of electronic lock cylinders and who have the appropriate training or sufficient experience for these activities.

OPERTIS Support

If you have any questions extending beyond the information provided in these instructions, please contact

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Up-to-date status of the information

All details on the product, images, dimensions and models correspond to the status at the time the product is delivered. We reserve the right to make changes due to technical progress and the resulting continuous improvement process to which our products are subjected.

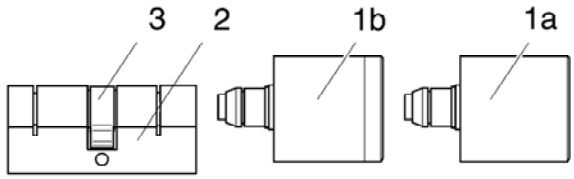
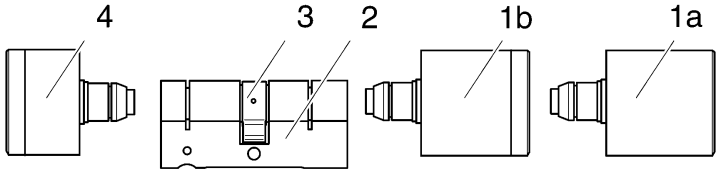
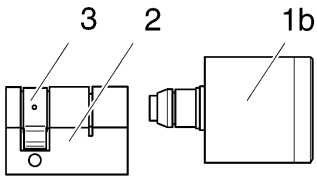
The current version of these instructions and further information is also available on our internet site www.opertis.de.

Dated 07/2013

2 Product description

Overview

The following electronic lock cylinders are described in these instructions:

Art. No. / Designation	Drawing
ES6230… ES7230… Lock cylinder	
ES6210… ES7210… Double knob cylinder	
ES6220… ES7220… Half cylinder	

1a	Inner knob without illuminated ring
1b	Inner knob with illuminated ring, access only with authorisation
2	Cylinder
3	Locking catch
4	Outer knob, access only with authorisation

Functional principle

The OPERTIS locking system eLOCK provides a complete series for your house. Special locking solutions are available for different door types.

The electronic lock cylinders are suitable for installation in doors with commercial profile cylinder (PC) locks and profile cylinder fittings. The electronic half-cylinder can also be installed in key switches or similar products which require a half-cylinder to control defined processes.

The administration and programming of the fittings, including the assignment of access rights, is implemented via the administration software eLOCK Center. Programming with eLOCK AddDelete using three programming keys without additional software is possible as an option.

External access always requires authorisation via an identifier, see separate Operating Manual. Access from inside depends on the variant of the inner knob, see below.

The eLOCK locking system provides passive identifiers without their own power supply for authorisation at the locks in a variety of forms such as keys, key holders, cards or customer-specific shapes. These must be held to the inner or outer knob for the authorisation check.

Inner knob variants

The following variants are available:

Art. No. **Designation**	**Locking/unlocking with inner knob**
ES62xx**E**… ES72xx**E**…	Any time
ES62xx**B**… ES72xx**B**…	Only with authorisation via identifier
ES6230**F**… ES7230**F**…	Never, fixed knob

Detailed information

For further information on the product: see section 8 “Product specification“.

3 Proper use

Area of use

The electronic lock cylinders support the property security in buildings. They are designed for use on indoor and weather-protected external doors. The electronic half-cylinder is also designed for use in key switches. Use outdoors, e.g. in fencing or on the side of external doors exposed to the weather is not permitted.

Condition of the product

Electronic lock cylinders may only be used when they are in a technically perfect condition.

Unauthorised reconstructions and modifications to the product are not permitted.

Ambient conditions

They are not intended for use in particularly difficult environments, e.g. aggressive gases, high humidity, extreme temperatures or extremely dusty environments. Please contact OPERTIS Support if you have any questions.

Power supply

All battery operated fittings activate acoustic and/or optical battery flat warnings and controlled failed locking if the battery output in the fitting is fading. The battery should then be replaced without delay.

In the event of repeated ignoring of the battery empty warning the fitting decouples the connectable side and switches to the Active Power Off state. The fitting can then only be activated with an external power supply (EPS) ES6781 for ES5000 plus systems or ES7781 for eLOCK and eLOCK LernLösch systems. This state is retained for all cylinders until the battery has been replaced.

Change the battery in good time!

Residual risk

If used properly and if the maintenance instructions are followed, this product will support your property security.

However, the following residual risk cannot be excluded:

- Danger of being locked in or out if the electronics fail. The door can only be opened with the help of mechanical aids. In this case, contact OPERTIS Support.
- If the electronics fail, there is a risk of the fittings remaining permanently coupled. It is then possible for unauthorised persons to also open the door. In this case, contact OPERTIS support.
- If the battery is suddenly and completely discharged the cylinder does not work. It does not signal any battery warnings and does not switch to Active Power Off state. The door can then only be opened at the outside of the cylinder using the external power supply (EPS) ES6781 for ES5000 plus systems or ES7781 for eLOCK and eLOCK LernLösch systems.

4 Safety instructions

The following safety instructions must be heeded before use! OPERTIS accepts no liability for personal injury or material damage that results from non-adherence to these instructions!

WARNING

Danger of personal injury from the battery

Any improper contact with the battery can lead to damage to the health. The following instructions must be noted:

- Only use batteries supplied or approved by OPERTIS.
- Do not open, solder or weld the batteries.
- Do not throw the batteries into fire.
- Do not recharge the batteries.
- Remove empty batteries immediately from the fitting.
- Store batteries out of the reach of children.
- Do not touch leaking batteries without appropriate protection. Avoid contact with the eyes or mouth.

CAUTION

Danger of material damage

Malfunctions can occur if unapproved battery types are used. The fitting does not signal any battery warnings and does not switch to the secured end state Active Power Off.

Only use battery types approved by OPERTIS.

CAUTION

Danger of being locked in/out

An empty battery can cause malfunctions and result in people being inadvertently locked in or out.

At least the last 100 locking operations before the battery is completely flat the fitting emits a warning with acoustic battery flat warning and controlled incorrect locking operations.

Replace the battery by the time the battery flat warning starts at the latest, see section 5 „Operation and use“.

CAUTION

Risk of malfunctions

- Operation of the fitting outside the defined temperature range can result in malfunctions and failure of the fitting. This is especially true for the inside of the fitting which may not be operated at temperatures below 0°C.
- Operate the fitting within the defined temperature range only.
- Do not leave external doors with installed fittings open in minus temperatures

CAUTION

Risk of being locked in

In the event of repeated ignoring of the battery empty warning the fitting decouples the connectable side and switches to the Active Power Off state. The fitting can then only be activated with an external power supply (EPS) ES6781 for ES5000 plus systems or ES7781 for eLOCK and eLOCK LernLösch systems. This state is retained for all cylinders until the battery has been replaced.

Change the battery in good time!

CAUTION

Danger of material damage

Any improper operation of the knobs or identity keys can lead to damage of the lock cylinder.

- Do not use any measures for increasing the torque on knobs and identity keys.
- Do not use the identity key as a handle for moving the door.

5 Operation and use

Programming fittings and identifiers

The fittings and identifiers are programmed using the administration software eLOCK Center or via the eLOCK AddDelete system. Detailed information can be found in the eLOCK software system documentation.

Replacing the battery

CAUTION

Danger of being locked in/out

The door cannot be opened without a functional fitting if the latch falls into the lock.

- Leave the door open while replacing the battery.
- Make sure that the door can be opened at any time without having to use the fitting.

Note

Only use new, unused batteries in the fitting.

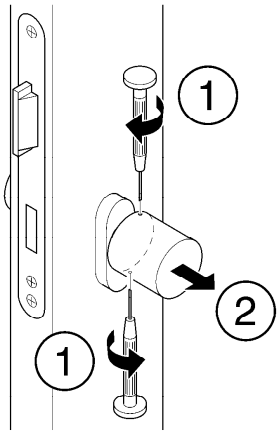
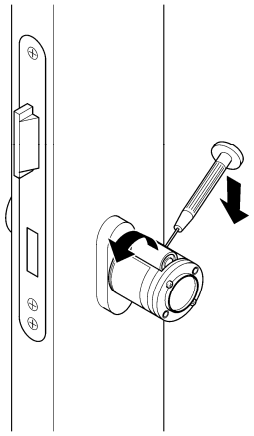
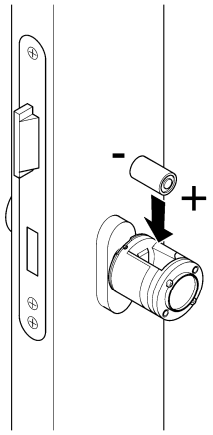
- The fitting only leaves Active Power Off or battery empty mode if a new battery is inserted.
- If a used battery is inserted in the fitting during normal operation, a premature battery empty warning can occur.

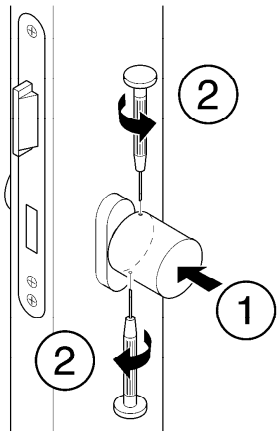
Note

For details of the battery type, see section “Technical data“.

The battery compartment of the double knob cylinder is in the inner knob.

Proceed as follows:

Step	Action	Figure
1	Screw in screw on cover **by clockwise rotation** with a screwdriver. Pull off the cover.	
2	**CAUTION** **Danger of material damage** If the battery is not correctly removed, the board can be damaged. - Do not lever the battery out on one side, either at the plus or minus pole. - Place the screwdriver under the centre of the battery. - Carefully lever out the battery. Remove the battery with the aid of the screwdriver.	
3	Insert new battery, ensuring the correct polarity: the minus polarity of the battery must point to the contact spring.	

Step	Action	Figure
4	Replace cover again. Fix the cover in place **by anticlockwise rotation** of the two screws.	
5	Then perform an opening with an identifier. Check date and time and if necessary reset, see eLOCK software system documentation.	

Optical and acoustic signals

The visual and acoustic signals of the fitting are dependent on the programming. The fittings programmed with the AddDelete system and the eLOCK Center have different signalling concepts.

Note

All of the visual and acoustic signals are described in the “Signalling concept“ section of the eLOCK system documentation.

The electronic lock cylinders emit acoustic and/or visual signals for specific system states and events:

Visual signal	Acoustic signal	Meaning
2x short blue	1x rising sound sequence	Programming mode on
–	1x falling sound sequence	Programming mode end (automatic)
2x short green	1x short high	Fitting actuated by authorised identifier
2x short red	1x long deep	No fitting actuation, identifier not authorised
5x long blue	1x long deep + 5x sound sequence short high	Battery empty, warning level 1 with controlled failed locking
3x long blue	1x long deep + 3x sound sequence short high	Active Power Off, battery completely discharged
2x short red-green	1x short high	Fitting activation in building-site mode or permanent release mode, see “Fitting modes“ section of eLOCK system documentation.
Several short red	–	Fitting was activated and is looking for an identifier.
2x short red 4x yellow	1x long deep + 4x short deep	System error! Disassemble fitting and contact OPERTIS Support.

6 Service, cleaning and care

Service, cleaning and care may only be carried out by qualified personnel.

Any guarantee for damages arising from improper handling is excluded.

Intervals

Action	Interval
Cleaning and care	3 months
Service	1 year

Cleaning and care

CAUTION

Danger of being locked in/out

The transmission of information from the identity key to the cylinder is carried out via contacts inside the cylinder core.

Heavy soiling or fluids such as water or oils can prevent this communication so it can be problematic to open the door under certain circumstances.

- Check the cylinder for soiling every 3 months and clean if necessary.
- Do not take the cylinder apart for cleaning.
- Only clean the outside of the cylinder.
- Only use OPERTIS ES0281 maintenance kit.

CAUTION

Material damage through incorrect cleaning

The surfaces can be attacked and damaged by incorrect cleaning:

- Do not use alkali or acidic cleaning agents or cleaning agents that contain chloride.
- Do not use scouring agents.
- Do not use abrasive instruments such as brushes.

Proceed as follows:

Step	Action	Figure
1	Wipe surfaces with a damp cloth.	
2	Clean the cylinder using OPERTIS ES0281 maintenance kit. Follow the instructions given in the directions for use of the OPERTIS maintenance kit.	

Service

CAUTION

Danger of being locked in/out

The door cannot be opened without a functional fitting if the latch falls into the lock.

Carry out operational tests with the door open.

Carry out the following functional checks once a year:

Model	Action	Result/Measures
ES6210E... ES7210E...	○ Hold authorised identifier against outer knob and turn outer knob. ○ Turn inner knob without using the identifier.	Lock can be easily locked/unlocked. Latch automatically goes back into starting position.
ES6210B... ES7210B...	○ Hold authorised identifier against outer knob and turn outer knob. ○ Hold authorised identifier on inner knob and turn inner knob.	For possible troubleshooting measures, see section “Problems and solutions“: ○ Programmed fitting does not open or close. ○ Fitting is hard to move.

Model	Action	Result/Measures
ES6220... ES7220…	○ Hold authorised identifier against knob and turn knob. ○ Check function accordingly when installed in other devices (e.g. key switch).	Lock can be easily locked/unlocked. Latch automatically goes back into starting position.
ES6230E... ES7230E...	○ Fit identity key in cylinder core on the outside and turn. ○ Turn inner knob without using the identifier.	For possible troubleshooting measures, see section “Problems and solutions“: ○ Programmed fitting does not open or close. ○ Fitting is hard to move.
ES6230B... ES7230B...	○ Fit identity key in cylinder core on the outside and turn. ○ Hold authorised identifier on inner knob and turn inner knob.	
ES6230F... ES7230F...	Fit identity key in cylinder core on the outside and turn.	
All	Read fitting info, check time and date, see eLOCK system documentation.	If necessary, reset time and date, see eLOCK system documentation software.

7 Problems and solutions

Problem	Possible cause	Solution
Programmed fitting does not open or close.	Identifier is not programmed or does not have the necessary authorisations.	Program the identifier, see eLOCK software system documentation.
	Identifier is defective.	Program and check new identifier, see eLOCK software system documentation.
	Fitting has wrong date or wrong time.	Reset the time, see eLOCK software system documentation.
	Foreign body in key channel.	Remove foreign body.
	Battery is empty or defective.	Replace battery.

Problem	Possible cause	Solution
Every identifier is lock authorised.	Fitting is not programmed ("building-site mode“).	Program the fitting, see eLOCK software system documentation.
Anti-panic function of the anti-panic lock in use is not functioning.	Incorrect fitting type.	Replace fitting immediately.
	Identity key in cylinder core.	Remove identity key.
Fitting is hard to move.	Knob is bent.	Replace fitting.
	Cylinder core is insufficiently lubricated.	Lubricate cylinder core (OPERTIS maintenance kit ES0281).
	Fixing screw screwed up too tight.	Undo fixing screw slightly.

8 Product specification

Declaration of conformity

OPERTIS GmbH declares that the electronic lock cylinders fulfil the basic standards and other relevant specifications of the 1999/5/EG and 2011/65/EU directives and that they are CE compliant.

A copy of the statement of conformity can be ordered from the OPERTIS Support.

Installation in PC designed mortice locks according to the following standards:

- DIN 18251-1: Locks - mortice locks - Part 1: Mortice locks for rebated doors
- DIN 18251-2: Locks - mortice locks - Part 2: Mortice locks for tubular frame doors
- DIN 18251-3: Locks - mortice locks - Part 3: Mortice locks as multiple bolting
- DIN 18250: Locks - mortice locks for fire protection and smoke protection doors

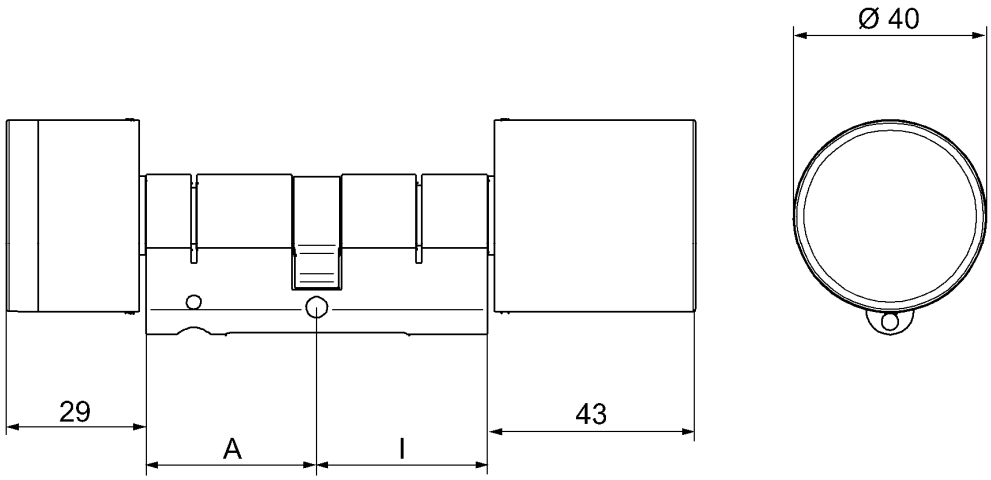
Report

According to report No. 120004118.2 by the MPA Nordrhein-Westfalen on the "OPERTIS eLOCK" mechatronic lock cylinder, it can be used on fire barriers up to a fire resistance T90.

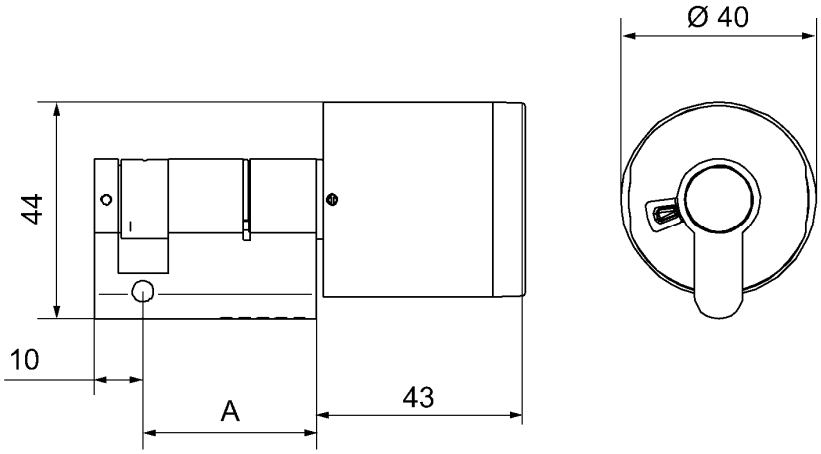
Dimensions

All dimensions are in mm. A = outside, I = inside

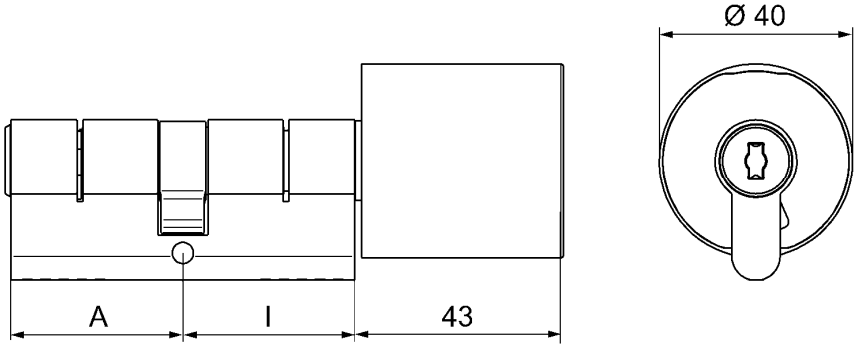
ES6210 and ES7210



ES6220 and ES7220



ES6230 and ES7230



Technical data

Surfaces

Cylinder housing	Corrosions protected surface
Knob	Polyamide surface and Stainless steel

Power supply

Voltage supply	3-volt lithium battery, CR2 OPERTIS article no.: ES0891. **Approved battery types:** O Energizer 1CR2 O Panasonic CR-2L/1BP O VARTA CR2 Professional
Battery life: O Ready for use: (with approx. 10 closures per day) O Closures (total) O Standby time	depending on use conditions and fitting type: O up to 3 years O up to 25,000 closures O up to 5 years

Specific data

Cylinder dimensions (see also section "Dimensions“)	**ES6210, ES7210:** 60 mm – 160 mm, in steps of 5 mm Outside (A): 30 mm – 80 mm Inside (I): 30 mm – 80 mm **ES6230, ES7230:** 55 mm – 160 mm, in steps of 5 mm Outside (A): 25 mm – 80 mm Inside (I): 30 mm – 80 mm **ES6220, ES7220:** Inside (I): 30 mm – 80 mm, in steps of 5 mm
Operating temperature	Outside: -20 °C to +45 °C Inside: 0 °C to +45 °C
Storage temperature	-20 °C to +60 °C
Air humidity for operation and storage	Max. 95 % non-condensing

Protection class in accordance with EN 60529	Battery knob Outside knob (polyamide): Outside knob (stainless steel):		IP21 IP21 IP44
Memory capacity in the fitting:	ES6… for ES5000 plus	ES7… for eLOCK	ES7… for eLOCK AddDelete
Identifier	60,000	80,000	100
Protection zones (affiliated to a group of fittings)	296	30	-
Events (authorisation attempts)	512	628	-

9 Disposal

Product

Disposal in accordance with WEEE Directive 2012/19/EU:

- Do not dispose of product by throwing it in the local household waste.
- Return product to OPERTIS or dispose of at a municipal collection point for hazardous electrical wastes.

Batteries

- Do not dispose of batteries in the local household waste but instead hand them in to public battery collection points.
- Do not throw batteries into a fire.
- Do not store used batteries together.
- Dispose of batteries only if they are discharged.

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